

SECTION 6: FINDINGS AND RECOMMENDATIONS

The objectives of the Alternatives Analysis process include the identification, evaluation, and comparison of potential alternatives. As discussed in this report, alignment and technology alternatives were evaluated. A Baseline alternative, consisting of improved local bus transit service, was also evaluated for comparison purposes. This section provides a brief summary of the analysis findings and the recommendations as to which alternatives should be evaluated in greater detail as part of an Environmental Impact Statement.

6.1 Technology and Alignment Alternatives Evaluation Findings

A summary of key findings for the technology and alignment alternatives evaluated for the Alternatives Analysis are provided below.

Technology Alternatives

The technology alternatives evaluated by the Alternatives Analysis process included both light rail transit and bus rapid transit. Key findings for each technology include:

- The estimated capital cost for constructing an at-grade light rail system for the four alignment alternatives evaluated ranges from approximately \$27 million to \$37 million per mile. These costs assume modern electric trains operated in a median guideway with overhead catenary electric power distribution. Stations, park and ride lots, ITS elements, electric substations, maintenance facilities, and associated street and streetscape improvements are included in the cost estimate.
- The estimated capital cost for constructing a bus rapid transit system for the four alignment alternatives evaluated ranges from approximately \$15 million to \$18 million per mile. These costs assume low-floor articulated buses or Civiis-type vehicles operated in a median guideway. Stations, park and ride lots, ITS elements, maintenance facilities, and associated street and streetscape improvements are included in the cost estimate.
- The estimated operating cost for light rail transit will range from about \$9 million to \$11 million per year, depending on which alignment is used. The estimated operating cost for bus rapid transit will range from about \$3.4 million to \$4.4 million per year, depending on which alignment is used.
- Both technologies can provide adequate capacity to serve preliminary ridership forecasts for 2025 along the alignments evaluated. However, because BRT vehicles operate individually and cannot be connected (operated in trains), operating costs will increase disproportionately for BRT if ridership exceeds the projections.
- Both technologies will generate additional ridership within the Central Avenue Corridor and for the transit system as a whole. Based on preliminary modeling analysis to estimate ridership, implementation of either LRT or BRT will increase system-wide ridership by approximately 45% over the baseline condition in the year 2025.
- Both technologies are consistent with the adopted land use and growth and development policies of Albuquerque. Experience in other cities in the United States indicates that LRT has a record of providing a stimulus for economic development

within the LRT corridor (*The Effect of Rail Transit on Property Values: A Summary of Studies*, Parsons Brinckerhoff, February 2001). Thus, LRT has the potential to enhance on-going redevelopment activities along Central Avenue and in Uptown, and planned redevelopment on Lomas Boulevard. This redevelopment is consistent with the goals of the Albuquerque Comprehensive Plan and Planned Growth Strategy.

- Because BRT systems are a relatively new technology within the United States, their effect on growth, and development is unknown.

Alignment Alternatives

Four alignment alternatives were evaluated in detail by the Alternatives Analysis process. The evaluation was based on FTA New Starts criteria and other locally-important environmental and land use factors. The alignments evaluated in detail include:

- Alternative 1: Central Avenue/Louisiana Boulevard
- Alternative 2: Central Avenue/Tramway Boulevard
- Alternative 3: Central Avenue/San Mateo Boulevard
- Alternative 4: Lomas Boulevard/Louisiana Boulevard

A fifth alignment that followed Central Avenue, Lomas Boulevard, and Indian School Road was also evaluated. Due to poor performance, this alternative was eliminated after an initial screening analysis.

Key findings for each alignment include:

- Alternative 1 (Central Avenue/Louisiana Boulevard) performed highest overall because of high ridership on a per mile basis, best cost effectiveness, service to designated activity centers, and service to large numbers of transit dependent special status populations.
- Alternative 2 (Central Avenue/Tramway Boulevard) has the overall lowest ridership on a per mile basis and, due to its length, is the most expensive of the four alternatives evaluated. It does however, provide service to the greatest number of transit dependant and special status populations.
- Alternative 3 (Central Avenue/San Mateo Boulevard) rated similar to Alternative 1 in terms of ridership and cost-effectiveness. However, San Mateo Boulevard is one of the City's heaviest traveled arterials and has limited redevelopment potential due to the residential neighborhoods that line the east side of the street. In addition, the portion of the alignment that follows Indian School Road passes through a residential neighborhood that, in the past, has opposed the reconnection of Indian School Road across I-40 and into Uptown. These two factors diminish the overall suitability of this alternative.
- Alternative 4 (Central Avenue/Lomas Boulevard/Louisiana Boulevard) has the lowest ridership of the four alternatives evaluated; however, on a per mile basis it has ridership

and cost-effectiveness comparable to Alternatives 1 and 3. A distinguishing feature of this alternative is the availability of large undeveloped parcels associated with UNM and large parcels near Downtown. Future development on these parcels will likely include a large employment base that could facilitate transit use. Lomas Boulevard is also the only viable alternative to Central Avenue.

6.2 Recommendations

The evaluation of technologies and alignments completed as part of the Alternatives Analysis process indicates that the projected ridership and other conditions within the Central Avenue Corridor are conducive to high capacity transit service. Moreover, high capacity transit service is essential to achieve the land use and development objectives included in the Comprehensive Plan and Planned Growth Strategies.

Technology Recommendations

Both LRT and BRT are recommended for further evaluation. Both of these technology alternatives are capable of providing efficient high capacity transit service within Albuquerque. In addition, both of these technologies are consistent with local policies and growth objectives that identify Central Avenue, Lomas Boulevard, and Louisiana Boulevard as high capacity transit routes. Because of the offsetting advantages involving costs versus economic development potential, it is recommended that each technology be evaluated in greater detail as a part of the EIS process before a preferred technology is selected.

Comments received at public meetings held to present the findings of the Alternatives Analysis included several requests to consider modern street car technologies as one type of light rail technology. Based on these public comments, it is recommended that the evaluation of LRT during the EIS include consideration of a modern street car system such as the Skoda street car system currently being operated in Portland, Oregon. This type of street car is a category of light rail and, in some corridors, is capable of providing service similar to other light rail systems. Because a primary objective of the Rapid Transit Project is to provide efficient high capacity transit service, street car technologies that would operate mostly in mixed flow traffic are not recommended.

Alignment Recommendations

Of the four alignment alternatives evaluated in detail by the Alternatives Analysis process, two are recommended for additional consideration and evaluation. Alternative 1 (Central Avenue and Louisiana Boulevard) is recommended based on its overall performance and cost-effectiveness. While the performance of Alternative 4 (Central Avenue/Lomas Boulevard and Louisiana Boulevard) was less than other alternatives considered, it is the only alternative that does not follow Central Avenue east of the Downtown area. Consequently, the effects and impacts of implementing LRT or BRT on Lomas Boulevard could be very different from a system implemented on Central Avenue. For these reasons, Alternative 4 (Central Avenue/Lomas Boulevard/Louisiana Boulevard) is recommended for continued consideration.

6.3 NEXT STEPS

The next step of the RTP will include the preparation of conceptual engineering documents and an environmental document. Based on the magnitude of the alternatives under consideration and their potential to affect traffic flow, on-street parking, and roadside businesses, environmental documentation will likely require preparation of an environmental impact statement. Conceptual engineering drawings of each alignment option and centerline alignment will also be prepared.

The draft environmental impact statement and conceptual engineering drawings will be used to conduct a detailed assessment of the environmental, social, and economic effects, and costs and cost-effectiveness for each alignment/technology alternative. The information developed by the draft environmental impact statement will be the basis for the selection of a locally preferred alternative (i.e., the preferred technology and the centerline alignment and termini.) The location of stations, park and ride lots, electrical substations (if the LRT alternative is selected) and parking facilities will also be identified. The recommendations that result from the environmental documentation and conceptual design phase will be submitted to FTA for review and concurrence. Acceptance by FTA, will allow the RTP to be advanced to the final environmental and preliminary engineering phase.

In addition to the environmental documentation and conceptual engineering elements, the next phase of the RTP will include the preparation of a financial management plan. The financial management plan will provide detailed information specific to the financial requirements of the RTP including detailed capital and operating costs and the probable funding sources and mechanisms.